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Specialized Gardening.

A READER of this paper asks us to describe a spring garden made a few years ago in the neighborhood of Boston, by a lady of taste, which has attained already to some local celebrity, and received last year a special prize from the Garden Committee of the Massachusetts Horticultural Society. It occupies the site of an old-fashioned formal garden, in a sort of amphitheatre, of a third of an acre, perhaps, in extent, formed by deciduous trees of fair size, in front of which were a few fine old shrubs, relicts of the past. The ground slopes gradually to the south and west, the centre of this slope being occupied by two noble Hemlocks, with wide branches sweeping on the turf. The problem to be solved was how to make this piece of ground most attractive during the months of May and June, the only part of the year when the place is occupied. The walks, of which there were a number, and all the flower-beds occupying the space surrounding the two Hemlocks, were first removed, and then a broad border was made continuously round the amphitheatre, except at three points, where entrances from the outside were left. This border was planted with shrubs, the general effect then being that of a small lawn of generally circular outline surrounding the two Hemlocks and in turn surrounded by a border of shrubbery backed with larger trees. No treatment could be more simple, and there is no description of garden which can be more easily made. The success of such a garden depends on proper natural surroundings, a fitting selection of plants for the borders, and the adoption of graceful and natural curves for the line dividing the turf from the plantations. The selection of plants, in themselves suited for such a garden and harmonious each with his neighbor, is a matter demanding taste and some technical knowledge; and the introduction of a single inharmonious element might easily destroy even an exceptionally good site like the one we have briefly described. The problem of selection has, however, in this particular case been greatly simplified by the fact that this garden was to be used during two months only; such plants as do not flower during these months could therefore be discarded. Generally speaking, tall shrubs, such as Lilacs, dwarf Apples, and various Plums occupy the back of the border; before these Spiræas, Exochordas, Calycanthus, Forsythias, Tartarean Honeysuckles, and others which may be expected under favorable conditions to attain a height of six or eight feet, are grouped as naturally as possible, while the margin of the bed, for a space of three or four feet wide, is occupied with isolated masses of Daphnes, Andromedas, small Azaleas, and other dwarf spring-flowering shrubs, the spaces between these masses being planted with such hardy bulbous and other perennial plants as bloom with them. This low growing margin is broken occasionally by a plant of *Spiræa Van Houttei* or of *S. Thunbergii* planted close to the turf, to send its branches out over the green, and so to remove all idea of stiffness or formality.

This garden is in itself a beautiful creation, and a good deal can be learned in it, of how to associate, and of how not to associate, plants when natural and pleasing effects are sought. It is surprising, for example, how entirely out of place a mass of high-colored garden Tulips or of double Hyacinths appear near the margin, and how admirably single Narcissi and Scillas look when used in a similar situation. All herbaceous plants, in fact, greatly altered by long cultivation, appear here inharmonious, while Violets, hardy Lady Slippers, Trilliums, Bloodroot and other inhabitants of the woods, produce the best possible effect. There is a danger always in such a garden of over-doing and of crowding in too many plants, either from the desire of possessing a great number of varieties or of producing immediate effects. Close-planting in the beginning is well enough, but unless some plants are removed as fast as they begin to encroach on their neighbors the whole feeling of the scheme will be destroyed, for certainly there is no more melancholy spectacle than a mass of shrubs so crowded together that they can grow only upwards, without lateral branches and without foliage and flowers, except at the very summit of the stems. A deciduous shrub is only really handsome when it has play for full and free development, and in the garden in question the neglect of timely thinning has already left its mark.

But it is time that we should leave this delightful spot, and turn to the general conclusion to which it naturally leads. It is that specialized gardening, that is, the concentration of effort in one direction must produce the most satisfactory results, and that it is, therefore, the wise and proper method to adopt. This is particularly true in America to-day. A large proportion of our best gardening is in connection with suburban homes; and every year the custom of leaving these homes about the 1st of July for a three months' vacation at the sea-shore or in the mountains, prevails more and more in this country. Anything like out-door winter-gardening in the Northern States is a delusion. The climate from December till April makes it impossible; so that when a man leaves his home early in July, and does not return to it until after frost has nipped vegetation, he can obtain the greatest amount of pleasure by growing only such plants as are at their greatest beauty between the 1st of April and the 1st of July. But specialism in gardening can, of course, be carried much further, and the further it is carried the greater may be the pleasure to be derived from it. Suppose, for example, that instead of a garden of mixed plants selected because they flower during May and June, a number of such gardens, each of which might have been much smaller, had been planted, one with Chinese Magnolias, another with dwarf Apples, another with Lilacs (and no one who does not know the varieties of these plants produced in recent years, can have any idea of the beauty of Lilacs), another with hardy Azaleas, another with Rhododendrons, and so on through a dozen other genera of plants, each of the series being arranged with perennial plants to flower simultaneously with its special tree or shrub. Each of these gardens would be perfect during a single week, perhaps, only, but it is easy to comprehend how the pleasure which could be ob-

tained from it would be great in proportion as it was concentrated. A man with abundant means and sufficient ground at his disposal might make a dozen such gardens without greater outlay than is required for the mixed planting now in vogue; or, in a village, a dozen men might join together and each one plant the surroundings of his villa or cottage with some plant or plants, for a particular effect, for one particular time, leaving to his associates to carry on the display from week to week. Such a scheme might be difficult to inaugurate, but if carried out to its possible limit it would develop a greater excellence in gardening, and produce more marvellous results than have yet been attained.

A lady who carries on a large farm and has for many years been a successful planter of trees, and a lover of them and of country life, sends us some male flowers which she has found growing on one of her young Pines, with the query, whether they are not some new form of disease which has appeared on her trees. We mention this fact, which does not astonish us as much, perhaps, as it should, as an illustration of how little even well educated and intelligent people know about the commonest trees which they see growing about them every day and as an argument in favor of giving children in the schools some elementary instruction about trees. The men or the women who can readily distinguish all the trees among which much of their lives are passed, and who have mastered some of the simple secrets of their life histories, have prepared for themselves an amount of pleasure which the person ignorant of such matters can hardly realize. This is a pleasure, too, of a sort which is as enduring as the trees themselves, and which, like them, bursts out each year into new and more vigorous growth.

A New England Village Street.

THE people of New England have reason to be thankful that their original forests produced many trees whose wood was of much greater value than that of the American Elm, for this, no doubt, is one reason why so many magnificent specimens of this tree have been left to shelter farm-houses and shade the highways of the Eastern States. It is plain, too, that its value as a street-tree was recognized there as soon as street-planting was begun, and many a New England town, like Old Hadley and West Springfield and Conway, has gained a name for beauty because the men who dwelt in it a hundred years ago appreciated the dignity and grace of the Elm, with its columnar trunk, buttressed at the base with sturdy roots, and its massive branches arching outwards to hold aloft its dome-like crown of foliage. The Sugar Maple is another of our noblest northern trees, although when young its outlines are rather too smooth and featureless. With advancing years, however, this Maple develops a certain individuality, with a more rugged contour and deeper shadows; and no one sees the avenue of Maples at Hyde Park on the Hudson, for instance, without a feeling of unqualified admiration.

Our illustration on page 283 shows a remarkable row of each of these trees. It is a view looking down the main street of Charlestown, New Hampshire, a town that was a frontier post in the old French war, and afterwards as a shire town, became the home of many people of more than ordinary public spirit and intelligence. In 1800, some of these residents planted a row of Elms on one side of the street and one of Sugar Maples on the other, and their successors continued the practice as the village grew, until the street is bordered with trees for about a mile. The two large Elms in the foreground on the right belong to a still earlier planting. They stand in front of the site of the old tavern which was kept by Colonel Abel Walker, and as the sign of the tavern, now in possession of the Massachusetts Historical Society, bears the date of 1785, they were probably planted as early, at least, as that year. Three other trees probably date from the same period, as they are larger than those known to have been planted in 1800, and at five feet from the ground vary in circumference from twelve and a half to nearly fifteen feet, and appear to be nearly one hundred feet high. The avenue of Elms seen in the background is probably unsurpassed in New England, and later plantations on the side streets so hide the houses that the town looks like a continuous forest to one who looks down upon it from any of the neighboring hills.

The view is reproduced from a photograph taken by Mr. S. S. Webber, a grandson of one of the old residents who practiced medicine in the town for more than sixty years.

Horticulture in Ancient Egypt.

FROM an article on "Egyptian Horticulture," by Monsieur G. Delchevalerie, recently published in the *Revue Horticole*, we have gathered a few facts which may be of interest to our readers in connection with the chapter on Egyptian gardening-art that was printed in these pages not many weeks ago. On the tomb of Ti, in the vicinity of the great pyramid, which dates from about forty centuries before Christ, the harvest of the Lotus and the manufacture of wine are represented, together with irrigating machines and horticultural tools similar to those in local use to-day. The tree called "Heglig" (*Balanites Ægyptica*), was largely cultivated in the Thebaid, and was sacred to Isis because it would grow even in the desert sand, and also because its edible fruit was shaped like a heart and its leaf like a tongue. The Sycamore, as has been said, was one of the chief trees of Egypt and likewise the Doum Palm (*Hyphæne Thebaica*) and, of course, the Date Palm. Lentils and Onions formed the main food of the people and Melons, Leeks, Radishes, Watermelons, Garlic and Chicory were everywhere cultivated, the last-named being indeed prescribed by a special law. Oil was obtained from the Castor-oil plant, Flax, Carthamus, Sesamum and Turnip. Olive-oil was obtained from Judea. Herodotus is careful to note that in his day the Olive was only grown in one or two districts and there not with great success. From two species of Lawsonia the ancient like the modern Egyptians obtained the henna with which to dye their finger-nails. In mummy cases many fruits have been found in a recognizable condition —Dates, Figs, Bananas, Lemons, Grapes, Doums, Pomegranates, Castor-oil beans, Sycamore Figs and Lotus beans, as well as bees-wax, gum-arabic and flowering shoots of Lawsonia. The Vine was grown for ornament over arbors and porches and was cultivated on trellises. An ancient legend explained that the first idea of pruning it came through observing a specimen which, after a goat had eaten off the tips of its shoots, bore with greater luxuriance than usual. Beer made from cereals was in common use among the lower classes, and as Hops did not grow in Egypt a bitter infusion of *Lupinus tenuis* was used instead. During the rule of the great conquering dynasties part of the tribute always exacted from subjected peoples was in the form of useful and ornamental trees and plants not indigenous in Egypt.

The cultivation of Sugar-cane was not introduced until the time of the Mohammedan caliphs, and then its chief use for a long period was to be eaten raw. At the present day the Egyptian laborer is never so happy as when squatting hour after hour on his heels beside the Nile chewing an immense stick of Sugar-cane. Nor did the ancient Egyptians cultivate the Bean which now plays so large a part in their domestic economy; it was considered by the priests an "unclean" plant. It is needless to repeat what has recently been said in these pages about the Sacred Lotus and the various Water-lilies which grew in Egypt. The Poppy was another favorite flower. The Papyrus does not now grow there spontaneously and it is a question whence the ancient inhabitants originally obtained it; probably from Upper Nubia and the Soudan countries where it grows in enormous thickets.

At a feast celebrated in Alexandria 284 years before Christ, during the reign of Ptolomy Philadelphus, a conspicuous feature in a splendid procession was a car, twenty cubits in length, which was drawn by three hundred men and surmounted by a wine-press full of grapes that were being pressed by sixty satyrs, singing vintage songs to the accompaniment of flutes. The wine ran out into the road and was served to the public by numerous children carrying vases of gold, silver and parti-colored enamel.

When Egypt fell under the dominion of Rome half a century before Christ, it became, as is well known, the granary of the imperial city, and furnished it with vast quantities of wine as well as cereals. This state of things lasted for three centuries and a half until about the year 330 A. D., when the

Greek Emperors at Constantinople obtained possession of the country. In 638 they were followed by the Arab invaders and the long line of Egyptian caliphs was established. Then, of course, the cultivation of the Vine was abandoned.

"California Lilacs."

ONE of the most prominent, as well as ornamental, shrubs of the Santa Cruz coast range of mountains is the Ceanothus in its various forms and species. As early as January some flowers begin to appear. But May is the month of its greatest glory. On the sea-side slope of these mountains there are five distinct species: (1) *Ceanothus cuneatus*, Nutt.; (2) *C. papillosus*, Torr. & Gray; (3) *C. incanus*, Torr. & Gray; (4) *C. thyrsiflorus*, Esch.; (5) *C. Andersoni*, Parry.

I mention them in the order of their blooming. The flowers are all of a pleasant fragrance, and when in bloom give a charm to these regions peculiarly attractive to the lover of nature.

Dr. C. C. Parry, the eminent botanist, who for forty years or more has made observations from time to time on the Pacific Coast, has published lately in the "Proceedings of the Davenport Academy of Sciences" a paper on the Ceanothus. To him I am indebted for much information in regard to these shrubs; and with him a few days ago I had the pleasure of a visit and trip of observation to the habitat of each of the above-named species.

The doctor having an eye for the beautiful as well as the new in botany, says: "If asked to designate a spot where they (the Ceanothus) occur in the greatest profusion and variety I should not hesitate to award the palm to the Santa Cruz range of mountains."

Ceanothus cuneatus has pale blue or whitish flowers in small, rounded clusters, small opposite leaves and branches, gray bark; a very pretty shrub, three to eight feet high.

C. papillosus has deep sky-blue flowers in small globose clusters. The dark green leaves, by which it is most readily distinguished, carry small pimples (papillæ) on the margin and upper surface. Whilst May is the month of its greatest bloom, flowers can be found at all seasons.

C. incanus is well-named, for the leaves and branches are hoary or white. The common name is White Thorn, so named because of its spinose branches. The leaves are broad, ovate and triple-veined. The flowers are whitish, in short racemes, and slightly fragrant. The bush is five to fifteen feet high, with a rounded shape, but with crooked and very angular branches.

C. thyrsiflorus is a graceful shrub, reaching in many cases thirty feet in height. It may be recognized at a long distance by its slender branches of pale green leaves and sky-blue sprays or plumes of flowers, looking like the smoke from a camp-fire. This species and No. 2 are not often found growing together. The traveler, however, will often pause to admire the flowering clusters of each as they stand against the mountain-side, giving an indescribable beauty to the landscape.

C. Andersoni is not very abundant, and only occupies the higher summits of these wooded mountains. With its sprays of pure white flowers, slender and somewhat drooping branches, small, modest, feather-veined leaves of a pale green, it readily attracts attention. When first seen by me in 1882 I secured a few specimens of the flowers, but thinking it possibly a hybrid, they remained unnamed in my herbarium until Dr. Parry saw them; and, after careful investigation, concluded that they belonged to an unnamed species, which he described in the paper I have mentioned.

The Ceanothus in these mountains are commonly called "Lilacs," or, as I have frequently heard, "Laylocks." They flourish most abundantly among the openings of Oaks, Redwoods, Pines and Firs, on the borders of basins and cañons. They are easily cultivated, and might be used to ornament grounds, or possibly for hedges. Nos. 1 and 3 might grow well in colder climates. I have found them at an altitude of 7,000 feet, where the winters are long and severe.

"Hybridity," says Dr. Parry, "which would seem to be largely favored by the profusion of showy and occasionally fragrant flowers, and which has been suffered to be largely instrumental in confusing species, is not a very troublesome feature in field observation where alone it can be properly studied."

And yet in our little walk among these plants we found some very curious combinations which could not be solved very easily in the field, much less in the herbarium. Some of these hybrids were very pretty, too. But the parents were found growing on either side, and the blending of characteristics were so apparent that a botanist would seldom be deceived.

Santa Cruz, Cal., May 15th, 1889. *C. L. Anderson.*

New or Little Known Plants.

Rudbeckia laciniata.

THE most conspicuous feature in the herbaceous flora of North America is found, perhaps, in the great number of autumn-blooming plants of the natural order *Compositæ*. No foreigner visits any part of this continent during the months of September or October without being struck by the great masses of color produced by our Asters, Golden-rods, Sunflowers, and other plants of their order. There are among them many subjects which are admirably suited for cultivation in herbaceous borders, or for naturalization in less carefully kept parts of the garden; but although sometimes found in the best European gardens, they have never yet received in this country anything like the attention which they merit.

One of the best of these plants for the garden is *Rudbeckia laciniata*, a figure of which appears in our illustration upon page 281. It is an old inhabitant of gardens, having been cultivated by Tradescant, the gardener of Charles the First, as early as 1640, and is sometimes, although not very often now, found in collections of herbaceous plants here. A well-grown plant forms a stout mass of dark green and rather coarse foliage, sometimes four feet high, by nearly as much through, and covered during the month of September, year after year, without any care or attention, with long-stemmed, terminal heads of bright yellow flowers, which light up the herbaceous border or the margins of a wood-walk as few other plants are capable of doing.

Rudbeckia laciniata is a widely distributed plant, being found from Canada to Florida, and as far west as Montana and New Mexico.

The Rudbeckias are confined to North America; and twenty-one species have been distinguished. They all, with one exception, have bright yellow ray-flowers, and elongated dark brown or nearly black discs. They are all worth a place in the garden.

Cultural Department.

Bagging Grapes.

SINCE the enclosing of the clusters of grapes in paper bags to preserve them from the germs or spores of *Læstadia Bidwellii*, the seed, so to speak, of the Black Rot, was suggested, I have practiced it; in a small way at first to test its efficacy, and since I became satisfied on this point I have annually bagged all the best clusters of all the varieties subject to this malady, using from 12,000 to 15,000 bags for a small vineyard. But after all that has been written on the subject for the past few years, I frequently find people who have scarcely heard of the practice. These spores are invisible to the naked eye, but they float about in the air, and, lodging on the skin of the grape, are ready to germinate under favorable conditions of moisture and temperature. To prevent their coming in contact with the grapes the clusters are enclosed in paper bags, the mouth reaching over the cane, folded and secured with a pin. Some writers give instructions to gather the top of the bag around the stem of the cluster and pin it, but this is bad advice; first, because if it is done as early as is advisable to protect the fruit, the young clusters are too tender to withstand the strain of wind and water, and many of them break off before they acquire sufficient strength to resist the pressure; and, secondly, many, I may say most varieties of Grapes have such short stems that there is no room between the cluster and the cane to fasten the bag. The Brighton, Empire State, Noah and a few others are not subject to this difficulty, but for the first reason assigned the advice is dangerous.

A two-pound plain manilla paper bag of fair quality, such as grocers use, is the size generally recommended, but I use the one and a half pound size in preference. This bag measures six and three-eighths by nine and a half inches. The two-pound bag is of the same length, but a little wider, which is of no advantage, and costs more. An inch or two added to the length would be desirable for many varieties. The patent square-bottomed bag possesses no advantage over those of the old pattern, and in fact I should prefer the latter

at the same cost. The corners of the bags are cut off—at the bottom to let out any water that may enter, and the tops to facilitate its reaching around the cane. In fact, if the bags were open at the bottom they would probably be quite as efficient. The tighter and more perfect the roof or top of the bag to exclude the entrance of the fungus and water from above, the better. I sometimes use three-pound bags, enclosing two clusters in each, which answers very well where the clusters are close and compact, but with looser clusters they are apt to grow into each other.

Complaint is sometimes made that the bags are not a complete protection, as the grapes sometimes rot in the bags. This is true, but in such cases it is fair to presume they were infected before the bags were applied. It is a great mistake to defer bagging too late. The longer it is put off after the grapes are fairly set, the greater the risk of failure. I have demonstrated to my satisfaction that if the grapes are uncontaminated when the bags are applied, they will remain so till maturity if the bag remains perfect. Sometimes small hail-stones will perforate the bags, and the rot spores will thus gain an entrance; and sometimes a manufacturer will use paper of an inferior quality that will not resist the rain-drops, but generally, they will withstand the weather through the season. Some varieties of Grapes having strong, perfect flowers are self-fertilizing, and these can be bagged before they bloom, as they will fertilize perfectly in the bags. In fact, we have good reason to believe that many blossoms are fructified before they open. The Niagara, Cottage, Concord and Clinton are of this class. On the other hand, varieties with imperfect flowers seem to need the pollen of other varieties to enable them to set their fruit. To bag these before blooming would, of course, deprive them of this assistance. Bagging is not only a protection from rot, but from birds also. Bagged fruit is a little later in maturing, and in the case of white grapes a little greener in color, but the bloom and appearance is more perfect. I have not been able to perceive any tendency to tenderness of skin as claimed by some, in bagged specimens.

Does bagging pay is the question universally asked, and I can answer it in both the affirmative and negative. To the amateur who thoroughly appreciates fine, well-grown, perfect clusters that excite the admiration of all beholders, to the professional grower who competes for the prizes at exhibitions, or who aspires to fancy trade at fancy prices, I say yes. But to the one who cannot command five cents a pound or over for his fruit I say no, emphatically.

The experiments made during the past two years in this country with preparations of copper-sulphate for the prevention of the mildew of the Vine have seemed to indicate that these mixtures were also antidotes for Black Rot. If further experiments should fully establish this fact we can dispense with bags, save the labor, and grow grapes out-of-doors as in former years. I learn the rot has appeared already at Vineland, and this season will perhaps fully demonstrate the efficiency of this treatment. The preparation considered the best is what is known as the Bordeaux mixture, which is made as follows: Dissolve six pounds of sulphate of copper in hot water, and slake four pounds of fresh lime in sufficient water to make milk of lime; mix the two together, and add enough water to make twenty-two gallons. This mixture should be sprayed on the vines at intervals of ten days to two weeks during the summer. This can be done with any of the force-pumps with a nozzle that delivers the liquid in the form of mist. The Eureka Sprayer, a modification of the Vermorel machine sent over here from France, is recommended highly by those who have used it.

Montclair, N. J. *E. Williams.*

Summer-Flowering Bulbs.

An important point to remember in the culture of these bulbs is that their flowering season is the rainy season of their native countries. This is particularly true of the Tigridia and the Gladiolus, which bloom in cool, rainy or winter season, while their period of rest is in the excessive hot, dry weather peculiar to their home. The Calla, a native of the Nile, blooms when the roots are a foot under water in the spring, and rests at low water, when their roots are as dry as it is possible to be and live. The same is the case with many of the so-called Cape bulbs.

The Gladiolus will grow under any conditions, but it will not grow well. A cool, moist atmosphere is the one in which they delight. Climate alone is what makes them succeed so well in England. Last year we had rain in abundance, with low temperature, and never before have we had such perfection in Gladiolus flowers. We make a mistake in planting our bulbs too early. They should be kept cool and dry, and in a dark room until the 1st of July, then they will come into bloom about the 1st of October, throwing up spikes that for number and size of flowers would hardly be recognized as the varieties that bloomed in midsummer. If planted early, so as to flower in July and August, they should be protected against the heat of the sun by a lattice or light canvas covering, and the bed should have a light mulching of newly-cut grass. This will keep the roots cool, and is not unsightly. The capabilities of the Gladiolus are only known to those who grow them in this manner. The soil makes but little difference with Gladioli. Any soil that will yield good crops of potatoes will be equally good for these plants. If it is heavy, plant shallow, say from one to two inches deep; if light, from four to six inches will be better. It is best to use ground made very rich for some other crop the previous year, as fresh manure does not suit them.

Lilies, quite as much as Gladiolus, need a good mulching to keep the roots cool and moist. A bed of Lilies that has been properly mulched a few years will yield enormously; more than thrice the number of flowers will be produced, and they will be much larger, with better defined colors and of greater substance. A Lily-bed should be made in a position where it can remain undisturbed for a number of years, and as long as the plants flower well. The Ascension Lily (*L. candidum*), the handsomest of all Lilies, should be planted in July or August, while the bulb is resting. They will live when planted at any time, but will flourish only when planted at the proper season.

Tigridias are Mexican bulbs, and do not endure our northern sun. Treat them as Lilies should be treated. In October the flowers remain open nearly the whole day, while in August they close before noon. Give them a moist, cool situation, and they will appreciate the treatment.

Dahlias are not properly bulbous plants, but they may properly be included in the same list. To be grown well they must have a cool and moist soil, which is usually a heavy one. If the garden does not afford such assist it by heavy mulching. If Dahlias are grown simply for distant effect give them plenty of room to branch out and plenty of plant-food, for they are great feeders. If individual blooms are desired, thin out the smaller branches and disbud. We prefer the former treatment, and want the plant to occupy all the space it requires, and to produce as many flowers as it likes.

Floral Park, N. Y. *C. L. Allen.*

Notes on Wild Flowers.

Viola cuculata, now in flower, has the greatest number of forms of any of our northen Violets. Under cultivation the larger forms attain great size, and the profusion of large, deep green leaves make it a desirable plant. It likes a moist and rich clay loam, but will live in almost any soil. *V. pedata* (Bird's-Foot Violet) is a showy species, bearing numerous large blue flowers. A moist, loamy soil seems to suit it, yet it will grow in any ordinary soil. *Viola Canadensis* is the tallest species we have in New England, and it often reaches a height of two feet or more. The white flowers, veined with purple, are borne in great abundance. It is a more difficult plant to grow to perfection than the Violets before named, but if given a moist, rich soil in the shade it will become established.

Camassia Fraseri, now in flower, has a short, loose spike of blue flowers and grows about eight inches high. It seems to be hardy, having stood the past two winters here in the open ground without protection. *C. Cusickii*, also in flower, is by far the largest Camassia we have seen. The bulbs are often twice the size of an ordinary hen's egg. The stems attain a height of over two feet, bearing long spikes, or racemes, of light blue flowers an inch in diameter, and there are frequently over forty of these to one spike. The plant is not difficult to cultivate, and, if planted deep, ought to be as hardy as most of the Lilies.

Aplectrum hyemale (Putty root) is not a showy Orchid. Its curious single leaf, which, like that of Calypso and of *Tipularia discolor*, comes up in autumn, remaining green through the winter until flowering time, then dying down to the bulb, is one of its chief attractions. It may be planted with success at any season, in moist, well-drained soil in the shade.

Arethusa bulbosa, now in flower, is one of the most charming little Orchids we have, although it is generally considered difficult to grow. It is a bog plant, and needs plenty of moisture. The finest plants we have seen were growing naturally in thick beds of Sphagnum moss. It sometimes attains a height of fourteen inches, but is oftener not more than six. We have planted it in autumn in a moist clay loam with good success. But the best place for it is in the Sphagnum beds of artificial bogs, where it would be sure to thrive.

Fig. 113.—Rudbeckia laciniata.—See page 279.

Our hardiest Lady Slipper is *Cypripedium pubescens*. We have transplanted it into all kinds of soil and at all seasons when the ground was not frozen, and it has always lived. It will grow in the sun, but prefers the shade. Its flowers are very like those of *C. parviflorum*, except that they are larger. Indeed, it is hard to distinguish between large specimens of *C. parviflorum* and small ones of *C. pubescens*. *C. acaule* is the most difficult to grow of our hardy Cypripediums. It likes a loamy, well-drained soil and needs shade. The flowers, always solitary, vary in color from a rose-purple to almost pure white, and in the highest colored forms are very showy.

Another pretty Orchid, now at its best, is *Orchis spectabilis*. Its flowers are pink-purple and white in color, borne on short stalks three to seven inches high. Its leaves are broad and lie close to the ground. It is an easy plant to cultivate if given just the right soil and situation, and will not thrive in any other. It needs plenty of fine, well-decayed leaf-mould or chip-dirt about its roots, plenty of moisture, yet perfect drainage and shade.

Fritillaria recurva, now almost out of flower, is a plant of the Lily family from California. It grows from six to twelve inches high, bearing several red flowers tinged with yellow, bell-shaped, three-quarters of an inch long by half an inch in diameter and resembling a Lily. It is one of the finest of this genus. The bulb is flat, an inch broad by one-fourth to half an inch thick. The plant needs well-drained soil and should be protected from frost in winter, or stored in dry sand in the cellar.

Phlox divaricata is a good plant for cultivation. The colors of its flowers are not so bright as those of some other Phloxes, but they are borne in great profusion and last a long time. It thrives in ordinary soil. *Silene Pennsylvanica* is now in bloom. The variety with pinkish flowers is a pretty plant, but the white variety is not so desirable. *S. Virginica* (Fire Pink), also in flower, is one of the finest species of this genus. Its flowers are large, not very numerous, but of a deep crimson color. It is easily grown from seed, or can be readily transplanted.

Charlotte, Vt., May 3d. *F. H. Horsford.*

Orchid Notes.

A GREAT many Cypripediums are now in bloom at this place, the most distinct and conspicuous among them being the rare *C. Mastersianum*, a plant introduced from the East Indies, though the exact habitat is not at present known. The foliage of this plant resembles *C. ciliolare;* the sturdy, hirsute scapes bear a single flower which in general outline is like that of *C. Hookeræ* but is much larger; the sepals are green, the dorsal one having a deep border of yellowish-white; the petals and lip are reddish-brown the former prettily spotted with dark purple. The general characters of growth and flower suggests a natural hybrid between *C. hirsutissimum* and *C. Hookeræ*. Another fine plant is *C. macropterum*, a hybrid from *C. Lowii* and *C. superbiens*, which bears a resemblance to both parents, but has foliage more distinctly that of *C. superbiens*. This superb Orchid rivals the famed *C. Morganiæ* in the elegance of its flowers, and, like it, is of strong growth and bears three flowers on a scape. *C. orphanum* is rare and extremely attractive, being the very best of its section. It possesses the free-growing qualities and habit of *C. Druryii*, and flowers as freely as *C. barbatum*. *Cypripedium Lindleyanum*, though known for nearly half a century, has always been a very rare plant until quite recently. It is found growing in British Guiana in swamps and on rocks where there is considerable water. In cultivation it needs to be treated almost as an aquatic, with strong heat and a very light position. The scapes are about three feet long, bearing four to five yellowish-green flowers, closely veined and reticulated with reddish-brown. *C. leucorrhodum* is a hybrid of *C. Roezlii* and *C. Schlimii album*, and is the best of this class. The growth is very strong, and produces branching scapes with many pale-rose and white flowers, the lip being prettily speckled on the inside with green. *C. Sedeni candidulum* is very near this species in its flowers, but differs considerably in growth. Branching scapes of this very pretty kind now bear fifteen to twenty flowers each. Several plants of the grotesque flowered *C. caudatum* are in full bloom, also the hitherto very rare white variety, *C. Wallisii*, and the quaint, slipperless *C. Lindeni*. A plant of the gay little *C. barbatum Warneri* has twenty-seven flowers, while the bold, dark-flowered variety *C. giganteum* is represented by a plant with thirty-seven flowers. *C. selligerum majus* is an immense improvement on the type, and Veitch's *C. Harrisianum superbum* is the best of the many varieties of this old and well-known hybrid. A plant with us is showing ten scapes.

Æridès crassifolium.—This species is again in flower with us. It is one of the handsomest of the genus. The habit is dwarf and thick-set, and, as the name indicates, the light-green leaves, sparsely dotted with purple, are very thick and fleshy. The racemes are long and drooping, bearing a number of large, handsome, purple-amethyst and white flowers. This plant, in cultivation, grows very slowly, and is seldom seen in bloom; but it will well repay any extra care it may require. We have plants doing fairly well in pots, also in shallow baskets with moss, but the best plant is in a cylinder. It requires the warmest treatment, with a very moist atmosphere and a minimum of potting material. It was introduced from Burmah about twelve years since.

Angræcum modestum (*Sanderianum*) is a charming, free-flowering and sweet-scented Orchid, introduced a few years since from Madagascar. The stem is somewhat short and slender, bearing broad, elliptic, bright green, leathery leaves. The pendulous racemes spring from the axils of these, which are a foot or more long, bearing about thirty pure white flowers, about one and a half inches across, the lip terminating in a spur some four inches long. The flowers last in perfection for three weeks. This Orchid should be found in the smallest collection. It will grow very freely in baskets or on blocks of wood, and should not have too much potting material. This may consist of moss alone or mixed with peat. The warmest house is best for it, with a plenteous supply of water at all seasons; the red spider attacks and disfigures the leaves at once if the atmosphere is too dry.

Cattleya iricolor is now blooming freely, and is remarkable for its distinct habit of growth, the color of its flowers and its rarity. The slender clavate bulbs are about four inches long and bear large strap-shaped leaves more than a foot long. The peduncles bear two to three flowers, four inches across, milk-white except the convolute lip, the base and side lobes of which are prettily marked with broken lines of purple and a transverse band of yellow. The native country of this species is unknown, and only one plant was ever imported. I am not sure whether there is any other part of this plant living or if the entire stock is here.

Kenwood, N. Y. *F. Goldring.*

Astragalus hypoglottis.—This is a pretty little prostrate plant belonging to the Pea family, and is now in bloom with us, with its heads of blue and white flowers raised just above the foliage, and amongst a batch of seedlings are some pure white flowered forms, which are pleasing by contrast. This plant is a native of Great Britain, but has proved perfectly hardy here in the open ground, but it is hardly suitable for a mixed border where strong-growing plants are. In such a position it would speedily become smothered. Another plant which makes a suitable companion to the above is *Lotus corniculatus*, with its golden-yellow blossoms, which are also pea-shaped. When planted together these form an interesting group.

Ranunculus speciosus, with yellow flowers an inch across, and as double as it is possible for a flower to be, is just now at its best, and resembles a much-branched double Buttercup, except that the flowers are larger. This is one of the easiest plants to grow when planted in a wet or heavy soil. Under these conditions *R. speciosus* will increase rapidly and form nice strong clumps, with abundance of flowers every year.

Saxifraga granulata.—The Saxifrage family is a numerous one, embracing plants vastly different from each other in habit and general appearance from the pretty trailing *S. oppositifolia* of the Pyrenees, and others of a similar habit to the large, thick-leaved *S. crassifolia*, and *S. peltata* of the Pacific coast, probably the largest of the genus. The subject of this note is now in bloom, and its pretty, double, white flowers render it a desirable plant. The popular name, Fair Maids of France, is not in this case a misnomer. The rock-garden is the best place to grow *S. granulata*, but is not essential. We have grown it successfully for years in the open border, where it flowers every spring. After flowering, the plant dies down for the hot season, and care should be taken not to disturb the small bulbs which are about the size of peas. Growth will begin again in fall, and the leaves will remain green all winter; the flower stems are produced with the opening of the spring season.

Passaic, N. J. *E. O. Orpet.*

Long, White, French Turnip.—This is the best of all Turnips for family use, and is known in Virginia as Sugar Turnip. The only trouble about it is that it needs earlier sowing than the flat, quick-growing sorts. At the north, June is none too early to put the seed in the ground. This is the hardiest of all Turnips I have ever grown. In this latitude it can be

left out just as Parsnips and Salsify are left, and it will be sound and sweet all winter. Another great advantage is that the tops in the spring make the best of greens—much better than Kale and almost equal to Spinach. With a good covering, in dry ground, this Turnip would probably winter over much further north. A good way to treat them is to sow the seed early in June in a bed, and transplant them later as vacant spots occur in the garden. Managed in this way the necessity for early sowing is not so inconvenient, and the Turnips are far superior to the flat sorts sown later. It belongs to the long Ruta Baga class.

A Hint About Pickles.—When working early sweet Corn for the last time plant a few Cucumber seeds between the hills of Corn, so as to have them about four feet apart each way. If a shovelful of manure is well chopped in before planting on each spot where a hill is to be, so much the better. Then as soon as the Corn is eaten, cut away the stalks and give the Cucumbers all the ground. Should the striped bug attack the young plants, as they seldom will at this season, dust bone-flour over them and they will leave at once. Brussels Sprouts can be set between Pea rows, and afterward allowed the whole ground.

Celery Plants.—Now that commercial growers produce Celery plants at such reasonable rates it hardly pays the private grower to take the trouble to raise them from seed. It is much better, however, to get these plants in advance of the time for setting in their final location. The growers will sell the small plants now at much lower rates than at planting time in July and August, and much better plants can be had by setting them now in beds and caring for them until the time to transplant finally. A cold frame, which has been used for early plants, is a good place to put them. They should be dibbled two or three inches apart all over the bed, and then, instead of the glass sash, the frame should be covered with a screen made of laths nailed an inch apart. This will give a varying shade which will not draw the plants and will protect them from the scorching sun. With proper attention to watering, stout plants can be grown, which will come up with a good mass of roots and suffer little in moving.

Crozet, Va. *W. F. Massey.*

Main Street, Charlestown, New Hampshire.—See page 278.

The Climbing Hydrangea.—*Hydrangea radicans* bloomed abundantly this year, but the flowers, borne in large, flat corymbs, have little color and are not very interesting. The large, deep green leaves, however, appearing as early as they do, are very beautiful, and as the plant makes rapid growth whenever it has anything to cling to, it is a very valuable addition to our climbers.

Germantown, Pa. *Joseph Meehan.*

Popular Gardening, in a recent issue, calls attention to the common and wasteful method of applying top-dressing to fruit and other trees, which consists of piling a heap of stable manure directly round the trunk. The roots of plants are capable of receiving nourishment through their young, growing tips only, so that unless the top-dressing is applied directly over the ends of the roots much of the value of the manure is wasted,

so far as immediate benefit to the tree is concerned. A picture of a tree with a horizontal section of ground showing the position and mode of growth of the roots clearly enforces the lesson, and indicates that the place to apply manure to a tree is a circle three or four feet wide drawn upon the ground just under the extremities of the lateral branches. A better way still is to cover the entire circle about the tree whose radius is equal to its height.

Notes from the Arnold Arboretum.

Pourthiæa arguta is flowering here freely for the first time. It is a graceful, hardy shrub, with slender, spreading branches, covered with smooth, pale gray bark, that of the branchlets thickly covered with warts, as are the peduncles and pedicels; lanceolate or elliptical, oblong, membranaceous, short-petioled, opposite leaves, pointed at both ends, finely and sharply serrate, and three inches long by one and a half inches wide. They are covered when young, as are the stout branches and inflorescence, with short, scattered white hairs, but become perfectly glabrous at maturity. The flowers are small, one-fourth of an inch across, pure white, and borne in flat, few-flowered, cyme-like, almost sessile corymbs, and are followed by small, red globose or ovoid, one to two-seeded pomes. The genus Pourthiæa was established by Decaisne ("Nouv. Arch. du Mus," x., 146) for a number of plants peculiar to the Himalayas, China, Corea and Japan, which, in herbaria, were long confounded with species of the allied genus, Photinia, which they resemble in general appearance. Pourthiæa can, however, be recognized by the minute serratures of the leaves, by the profusion of the warts which cover the young shoots, the petioles and peduncles, by the styles (two, or generally three), connate to the middle, and by the testa of the seeds, which contains ducts filled with resinous gum, a peculiarity which, as M. Decaisne pointed out, is not shared by the plants of other genera of *Pomaceæ*. The genus commemorates the labors of the French missionary, Pourthié, massacred in Corea in 1866.

Pourthiæa arguta is a native of the Himalayas from Sikkim to the Kashya Hills and to Burmah. It is apparently very variable, Sir Joseph Hooker describing no less than six varieties in the "Flora of British India" (ii., 382).

In cultivation here it is a remarkably neat and apparently a perfectly hardy plant, already nearly eight feet high, having inhabited the Arboretum for a number of years. The divergent habit of the branches and flower-bearing lateral branchlets give to this plant a peculiar and striking appearance quite unlike that of other plants in the collection. It flowers here about ten days earlier than its near ally, *Photinia villosa*, of which a figure was published in the first volume of Garden and Forest, p. 67.

The Dalmatian *Spiræa cana* is very fine here this year. It is one of the most variable of the Spiræas in habit, in the size and pubescence of the leaves and in the size of the inflorescence. Next to *S. trilobata* and its varieties, of which *S. Van Houttei* is by far the most beautiful, *S. cana* is the best of the late-blooming Spiræas which produce their flowers on the extremities of lateral, leafy branches. The most attractive of the numerous forms of this plant which are cultivated in the Arboretum is one with small, ovate, entire leaves (one-half to two-thirds of an inch long), covered with soft, silky-white tomentum, and with very abundant, although small, panicles of flowers. This is a perfectly hardy shrub of handsome, compact habit. It grows here to a height of two or two and a half feet.

There are many species and varieties of Cotoneaster in the collection. Among them are plants of considerable ornamental value, especially for the autumn decoration of gardens, as they nearly all produce showy fruit. Among the species now in flower the handsomest at this season of the year is the dwarf and here nearly prostrate *C. microphylla*. It is a low, intricately-branched shrub, with very stout, rigid, horizontal branches, ovate or obovate entire leaves, a third to half an inch long, the margins often somewhat recurved, very coriaceous, dark green and glossy on the upper surface, the lower covered with sparse hairs, which also occur upon the calyx and short peduncles. The flowers are rather large (half an inch across), solitary, greenish-white, with showy red stamens. The scarlet fruit is globose. *C. microphylla*, often confounded in gardens with *C. rotundifolia* and *C. buxifolia*, is a native of the Himalayas, from Kashmir to Bhotan, where it is found at elevations of from 4,000 to 10,000 feet above the sea level. *C. microphylla* is fairly hardy here, and is a useful plant for carpeting the ground under larger shrubs. Its neat habit, brilliant, although small, leaves, and handsome and abundant flowers and fruit make it a desirable subject for the rock-garden, or for the margins of small shrubberies.

Cotoneaster acuminata is also in flower. This is an erect shrub, with rather stout branches, with ovate, acuminate or acute leaves two inches long, pubescent or tomentose beneath (glabrous at maturity), as are the shoots of the year and the inflorescence. The flowers are dull pink, inconspicuous, in short, one to five-flowered cymes. They are followed, however, by handsome black fruit, which makes this plant a conspicuous object during the autumn months. It is a native of the Himalayas from Sumor to Sikkim, where it extends to an elevation of 13,000 feet. It attains sometimes a height of fourteen feet in its native country, where the wood is used for walking-sticks ("Fl. British India," ii., 385). *Cotoneaster acuminata* is perfectly hardy in the Arboretum, which it has inhabited for several years.

C. vulgaris is the most showy species of the genus in fruit in this collection. It is an erect shrub, with stout branches, broadly ovate, acute or obtuse leaves, one to two inches long, glabrous above, softly tomentose on the lower surface; small, inconspicuous, reddish flowers, in short, glabriescent, few-flowered cymes, and brilliant, bright red, drooping fruit, which remains upon the branches for a considerable time after the leaves have fallen; it is found from northern Europe, through Siberia and Persia to the Himalayas. There is a variety with black fruit which is not in this collection. *C. vulgaris* is a perfectly hardy plant, and although a very old inhabitant of gardens, it seems to be rarely cultivated in this country in spite of the fact that it is one of the most desirable of autumn fruit-bearing shrubs.

Rhamnus alpinus, now in flower, has the most ornamental foliage of the genus. The leaves are ample, four or five inches long, oval, lanceolate, crenately toothed, dark green and lustrous, and conspicuous for the exceedingly prominent primary veins. The flowers, like those of the other species, are inconspicuous, yellow-green, four parted, the females with four-lobed stigmas. The fruit is black. It is a dwarf shrub, attaining sometimes a height of three or four feet. Here it grows rather slowly, and its hardiness is not yet satisfactorily demonstrated. *Rhamnus alpinus* is a native of the mountain ranges of southern Europe from Spain to Turkey.

The Deerberry, or Squaw Huckleberry (*Vaccinium stamineum*) is a charming garden plant, and one which, when well established, grows freely in any good soil, requiring no special care or peculiar treatment. It is now covered with flowers, with open, bell-shaped corollas, and long, exserted stamens, hanging singly on graceful, slender pedicels from the axils of the small upper leaves or leaf-like bracts, and forming leafy racemes. *V. stamineum* is a widely-branching shrub, two or three feet high, with ovate or oval ample pale leaves, glaucous or white on the lower surface, and large, round or pear-shaped fruit, which is green or sometimes dull purple when fully ripe, and barely edible. The Squaw Huckleberry is found over a large part of the Northern States, and along the southern Alleghenies, growing always in gravelly soil, under the shade of deciduous trees, generally different species of Black Oaks. Brought into the garden, and treated generously, it will grow more freely than it does in its native home, and will delight and astonish those persons who are not familiar with the beauties of the American *Vacciniæ*.

The English Bilberry, the pretty little *Vaccinium Myrtillus*, is in flower. This is a small, glabrous shrub, growing only eight or ten inches high, with angled green branches, ovate, thin leaves, globular, solitary, nodding, pale green flowers, tinged with red; and round, nearly black fruit, covered with a glaucous bloom. It is a native of northern and central Europe, extending to the great mountain ranges of southern Europe, often covering wide tracts of ground. It is hardy here, but a delicate plant, requiring special care and attention.

Exochorda grandiflora, a well-known garden shrub and a native of central China, has flowered this year in this neighborhood in the greatest profusion, and perhaps has never before been seen here in as great beauty. It is certainly one of the most beautiful of all spring-flowering shrubs. It is not, however, although known in European gardens for more than forty years, as common a plant as the great beauty and profusion of its flowers would lead one to expect. The truth is, it is a difficult plant to propagate; there is no stock upon which it will grow, and green wood cuttings root very slowly and with great difficulty. Seed, if it can be had, germinates freely, but young plants rarely produce seeds, which appear apparently only on old and long-established plants; and old plants are rarely seen. The Exochorda, from some reason or other, dies young, at least in this climate, and it is rare to see a bush more than six or eight feet high here. Generally before it reaches that size the branches begin to crack and to lose the bark. After this the plant gradually perishes, and generally disappears at the end of

two or three years more. Any seed which can be found should be carefully collected and sown, so that a succession of young plants can be kept up.

Lonicera parvifolia, a small, shrubby species from the alpine Himalaya is in flower. It is a neat shrub with minute leaves and small, greenish-white flowers with cylindrical, corolla-tubes a quarter to a third of an inch long—a pretty plant enough, but of no great beauty or horticultural interest.

Lonicera glauca (the *L. parviflora* of Gray's Manual) is a beautiful native Honeysuckle, which is now in flower. It has trailing or sometimes bushy stems, rarely more than four or five feet long, smooth leaves, green on the upper and very pale and glaucous on the lower surface, the upper pairs united and all closely sessile. The flowers are greenish-yellow, tinged with dark purple, and are produced in closely approximate whorls.

This is a northern plant, extending almost to the shores of Hudson's Bay, and not uncommon in northern New England and New York or on the high Carolina mountains—a good subject to naturalize on rocky banks or the borders of woods.

Lonicera Alberti (see GARDEN AND FOREST, i., 226) may be mentioned again, that the testimony of another year's trial may be recorded in its favor. It is certainly one of the best small shrubs of recent introduction. The habit is graceful and the coloring delightful. The flowers are abundant, fragrant and of good color; the fruit which was produced here last year very freely, is large (three-fourths of an inch in diameter), vinous-red and covered with a glaucous bloom. This is, so far as we know here, by far the most valuable of the ligneous plants introduced in late years from central Asia through the efforts of the Russian botanical explorers, the most active and successful of whom, Dr. Albert Regel, is very fittingly commemorated in this charming plant.

Lycium pallidum, figured last year in GARDEN AND FOREST (f. 54), is now loaded with its handsome, tubular flowers. The introduction of this species was certainly a very lucky hit. The fact that a plant of the dry south-west grows here so well and flowers so profusely is a remarkable and interesting fact.

May 25th. *J.*

The Forest.

Succession of Forest Growths.

THE following is from an address delivered by Mr. Robert Douglas before the Association of American Nurserymen at the meeting in Chicago last week:

It is the prevailing and almost universal belief that when native forests are destroyed they will be replaced by other kinds, for the simple reason that the soil has been impoverished of the constituents required for the growth of that particular tree or trees. This I believe to be one of the fallacies handed down from past ages, taken for granted, and never questioned. Nowhere does the English Oak grow better than where it grew when William the Conqueror found it at the time he invaded Britain. Where do you find White Pines growing better than in parts of New England, where this tree has grown from time immemorial? Where can you find young Redwoods growing more thriftily than among their giant ancestors, nearly or quite as old as the Christian era?

The question why the original growth is not reproduced can best be answered by some illustrations. When a Pine-forest is burned over both trees and seeds are destroyed, and as the burned trees cannot sprout from the stump like Oaks and many other trees, the land is left in a condition well suited for the germination of tree-seeds, but there are no seeds to germinate. It is an open field for pioneers to enter, and the seeds which arrive there first have the right of possession. The Aspen Poplar (*Populus tremuloides*) has the advantage over all other trees. It is a native of all our northern forests, from the Atlantic to the Pacific. Even fires cannot eradicate it, as it grows in moist as well as dry places, and sprouts from any part of the root. It is a short-lived tree, consequently it seeds when quite young and seeds abundantly; the seeds are light, almost infinitesimal, and are carried on wings of down. Its seeds ripen in spring, and are carried to great distances at the very time when the ground is in the best condition for them. Even on the dry mountain sides in Colorado, the snows are just melting and the ground is moist where they fall.

To grow this tree from seed would require the greatest skill of the nurseryman, but the burnt land is its paradise. Wherever you see it on high, dry land you may rest assured that a fire has been there. On land-slides you will not find its seeds germinating, although they have been deposited there as abundantly as on the burned land.

Next to the Aspen and Poplars comes the Canoe Birch, and further north the Yellow Birch, and such other trees as have provision for scattering their seeds. I have seen acorns and nuts germinating in clusters on burned lands in a few instances. They had evidently been buried there by animals and had escaped the fires. I have seen the Red Cherry (*Prunus Pennsylvanica*) coming up in great quantities where they might never have germinated had not the fires destroyed the débris which covered the seed too deeply.

A careful examination around the margin of a burned forest will show the trees of surrounding kinds working in again. Thus by the time the short-lived Aspens (and they are very short-lived on high land) have made a covering on the burned land, the surrounding kinds will be found re-established in the new forest, the seeds of the conifers, carried in by the winds, the berries by the birds, the nuts and acorns by the squirrels, the mixture varying more or less from the kinds which grew there before the fire.

It is wonderful how far the seeds of berries are carried by birds. The waxwings and cedar-birds carry seeds of our Tartarean Honeysuckles, Purple Barberries and many other kinds four miles distant, where we see them spring up on the lake shore, where these birds fly in flocks to feed on the Juniper berries. It seems to be the same everywhere. I found European Mountain Ash trees last summer in a forest in New Hampshire; the seed must have been carried over two miles as the crow flies.

While this alternation is going on in the east, and may have been going on for thousands of years, the Rocky Mountain district is not so fortunate. When a forest is burned down in that dry region, it is doubtful if coniferous trees will ever grow again, except in some localities specially favored. I have seen localities where short-lived trees were dying out and no others taking their places. Such spots will hereafter take their places above the timber-line, which seems to me to be a line governed by circumstances more than by altitude or quality of soil.

There are a few exceptions where Pines will succeed Pines in a burned-down forest. *Pinus Murrayana* grows up near the timber-line in the Rocky Mountains. This tree has persistent cones, which adhere to the trees for many years. I have counted the cones of sixteen years on one of these trees, and examined burned forests of this species, where many of the cones had apparently been bedded in the earth as the trees fell. The heat had opened the cones and the seedlings were growing up in myriads; but not a conifer of any other kind could be seen as far as the fire had reached.

In the Michigan Peninsula, northern Wisconsin and Minnesota, *P. Banksiana*, a comparatively worthless tree, is replacing the valuable Red Pine (*P. resinosa*), and in the Sierras *P. Murrayana* and *P. tuberculata* are replacing the more valuable species by the same process.

In this case, also, the worthless trees are the shortest-lived, so we see that Nature is doing all that she can to remedy the evil. Man only is reckless, and especially the American man. The Mexican will cut large limbs off his trees for fuel, but will spare the tree. Even the poor Indian, when at the starvation point, stripping the bark from the Yellow Pine (*P. ponderosa*), for the mucilaginous matter being formed into sap-wood, will never take a strip wider than one-third the circumference of the tree, so that its growth may not be injured.

We often read that Oaks are springing up in destroyed forests where Oaks had never grown before. The writers are no doubt sincere, but they are careless. The only Pine-forests where Oaks are not intermixed are either in land so sandy that Oaks cannot be made to grow on them at all, or so far north that they are beyond their northern limit. In the Green Mountains and in the New England forests, in the Pine-forests in Pennsylvania, in the Adirondacks, in Wisconsin and Michigan—except in sand—I have found Oaks mixed with the Pines and Spruces. In north-western Minnesota and in northern Dakota the Oaks are near their northern limit, but even there the Burr Oak drags on a bare existence among the Pines and Spruces. In the Black Hills, in Dakota, poor, forlorn, scrubby Burr Oaks are scattered through the hills among the Yellow Pines. In Colorado we find them as shrubs among the Pines and Douglas Spruces. In New Mexico we find them scattered among the Piñons. In Arizona they grow like Hazel-bushes among the Yellow Pines. On the Sierra Nevada the Oak region crosses the Pine region, and scattering Oaks reach far up into the mountains. Yet Oaks will not flourish between the one hundredth meridian and the eastern base of the Sierras, owing to the aridity of the climate. I recently found Oaks scattered among the Redwoods on both sides of the Coast Range Mountains.

Darwin has truly said "The Oaks are driving the Pines to

he sands." Wherever the Oak is established—and we have seen that it is already established wherever it can endure the soil and climate—there it will remain and keep on advancing. The Oak produces comparatively few seeds. Where it produces a hundred, the Ash and Maple will yield a thousand, the Elm ten thousand, and many other trees a hundred thousand. The acorn has no provision for protection and transportation like many tree-seeds. Many kinds are furnished with wings to float them on the water and carry them in the air. Nearly every tree-seed, except the acorn, has a case to protect it while growing, either opening and casting the seeds off to a distance when ripe or falling with them to protect them till they begin to germinate. Even the equally large seeds of other kinds are protected in some way. The Hickory-nut has a hard shell, which shell itself is protected by a strong covering until ripe. The Black Walnut has both a hard shell and a fleshy covering. The acorn is the only seed I can think of which is left by Nature to take care of itself. It matures without protection, falls heavily and helplessly to the ground, to be eaten and trodden on by animals, yet the few which escape and those which are trodden under are well able to compete in the race for life. While the Elm and Maple seeds are drying up on the surface, the Hickories and the Walnuts waiting to be cracked, the acorn is at work with its coat off. It drives its tap-root into the earth in spite of grass, and brush, and litter. No matter if it is shaded by forest-trees so that the sun cannot penetrate, it will manage to make a short stem and a few leaves the first season, enough to keep life in the root, which will drill in deeper and deeper. When age or accident removes the tree which has overshadowed it, then it will assert itself. Fires may run over the land, destroying almost everything else, the Oak will be killed to the ground, but it will throw up a new shoot the next spring, the root will keep enlarging, and when the opportunity arrives it will make a vigorous growth, in proportion to the strength of the root, and throw out strong side roots, and after that care no more for its tap-root, which has been its only support, than the frog cares for the tail of the tadpole, after it has got on its own legs.

There is no mystery about the succession of forest-growths, nothing in Nature is more plain and simple. We cannot but admire her wisdom, economy and justness, compensating in another direction for any disadvantage a species may have to labor under. Every kind of tree has an interesting history in itself. Seeds with a hard shell, or with a pulpy or resinous covering, which retards their germination, are often saved from becoming extinct by these means.

The Red Cedar (*Juniperus Virginiana*) reaches from Florida to and beyond Cape Cod; it is among the hills of Tennessee, through the Middle States and New England. It is scattered through the western states and territories, at long distances apart, creeping up the Platte River, in Nebraska. (I found only three in the Black Hills, in Dakota, in an extended search for the different trees which grow there. Found only one in a long ramble in the hills at Las Vegas, New Mexico.) Yet this tree has crept across the continent, and is found here and there in a north-westerly direction between the Platte and the Pacific Coast. It is owing to the resinous coating which protects its seeds that this tree is found to-day scattered over that immense region.

Correspondence.

Ulmus fulva pendula.

To the Editor of Garden and Forest:

Sir.—I appreciate the kindly notice your correspondent has given of me and my work. In regard to the "Weeping Slippery Elm," I am responsible for the name under which it has been distributed. It was regarded as a form of the Slippery Elm without the close examination that should have been made. Two of the trees originally grafted have now flowered with me. They prove to be not *Ulmus fulva*, but a form of the common White Elm (*U. Americana*). It is inconceivable that I should not have noticed this, as the Slippery Elm is readily distinguished by the rough bark on the younger twigs, very different from the smoother bark of the American or White Elm. As there are many weeping forms of the common American Elm, and it is necessary to re-name this, it will be better to drop the Latin designation for a mere variety like this. The grafts were sent to me by Mr. E. Beebe, then of Galena, Illinois, from a tree growing wild near there. An appropriate designation will be "Beebe's Weeping Elm."

Beebe's Weeping Elm is a very striking form. The branches curve over as they grow, much as the Weeping Willow does—the branches being thick and cord-like. I have seen some of these curving branches that make an annual growth of twenty feet. They, however, get up to be trees of considerable size for all the curving tendency of the young growth. My trees are about thirty-five feet high, with trunks three and a half feet in circumference. The appearance at a little distance is precisely that of a Weeping Willow. *Thomas Meehan.*

Germantown, Pa.

To the Editor of Garden and Forest:

Sir.—A friend, whose son is a large grower of flowers in England, writes me expressing obligation to Garden and Forest for the note on the poisonous properties of *Primula obconica*. She says, in substance, "this has solved the mystery for us of the very troublesome inflammation of face and hands from which not only I but two of my daughters have been suffering this last year. It is undoubtedly *P. obconica* that has been the cause of it, for since we have avoided handling the plant the symptoms have gradually disappeared. I do not suppose any but those who grow the plant in large quantities need be afraid, and our men have divided and re-potted a great number without ill effects, so that it is only injurious to certain persons. It so happens that I have taken special trouble about our picking dead leaves, etc., little thinking that the evil was thus continually kept up. My eldest daughter, who has charge of boxes of cut flowers, has suffered greatly in her hands and arms, and, in some degree, in her face and eyes. Another daughter, who has used the flowers in wreath-making, of late showed similar symptoms, which puzzled our doctor extremely, though he said he was positive there was some local cause. It is such a charming plant that we are truly sorry, but I am afraid the fact remains." As *P. obconica* is now being so largely grown it seems well that this evidence confirmatory of your note should be given, as a warning to those who are susceptible to plant poisons.

Elizabeth, N. J. *Jno. N. Gerard.*

Kissena Nurseries.

To the Editor of Garden and Forest:

Sir.—In the early part of this century the most attractive spot in the Middle States, for lovers of ornamental trees and other plants, was "The Linnæan Botanic Garden and Nursery," at Flushing, Long Island, of which Mr. William Prince was the proprietor. Mr. Prince was a man of excellent taste and a genuine enthusiast in horticulture. He gathered a notable collection of trees and shrubs, and in the now busy town, hard by the railroad station, there still stands to mark the site of the old nursery a noble Cedar of Lebanon, one of the best and oldest specimens of this tree in the United States. It was, perhaps, the success of this establishment, for so many years identified with the gardening art of the country, which led to the foundation, fifty years ago, of the Parsons' nurseries, which still remain, so that the town of Flushing has never lacked for choice material when any planting was to be done. This is made evident to the visitor not only by the unusual number of striking trees and shrubs on the private grounds of the town, but by the trees in its streets, which are exceptionally well planted. There are fine avenues of Elms here as elsewhere, but it is rare to find such long lines of Tulip-trees, or Lindens, or Beeches as are seen here. Mr. Samuel B. Parsons, the present head of the nurseries, who has done most of the planting, is particularly hopeful as to the future of the Beeches, and certainly a long, straight street with a row of well-grown English Beeches on either side would be worth a journey to see. This particular street, however, is comparatively new, and the trees have but just taken hold of the soil as if they were determined to grow. No better wish for them can be made than that they all may attain to as fair proportions as those of a tree of the same species standing near by on the private grounds of Mr. Parsons. In sweeping grace of outline, and in the lustrous beauty of its foliage, this particular tree is not equalled by any English Beech it has yet been my pleasure to see.

In their present estate, however, the Oaks are to me the most interesting street-trees in Flushing. That the conditions of the place are adapted to the best development of these trees might have been surmised from the size of the famous Fox Oaks, one of which was blown down in 1831, while the other survived until 1873, when it was destroyed by fire. A count of the annual rings then showed that the trees were 300 years old when George Fox preached under them in 1672. The giant White Oak on Parsons Avenue belongs, no doubt, to the same generation, and its knotted and furrowed trunk is twenty-three feet in girth. But the younger Oaks do not lack interest. Here they stand to prove that Oaks of many species grow rapidly,

and are in every way desirable for street-planting. A row of Pin Oaks, with perfectly straight trunks and shining strata of foliage, leaves nothing to be desired. And Willow Oaks, Chestnut Oaks, Over-cup Oaks are all equally good, each species having special merit of its own. In some places Mr. Parsons planted White Maples between the Oaks for immediate effect, with the intention of cutting them out as the trees began to crowd. But some of the later owners lacked the intelligence or nerve to remove the Maples, and now the beauty of both Oaks and Maples is lost beyond recall. In one instance I noted that an eccentric chopper had preferred the Maples, and had actually slaughtered the Oaks to save them.

In no commercial establishment in the country can a buyer find a more comprehensive list of trees and shrubs for ornamental planting than at the Kissena Nurseries. If the business has been directed towards any specialties, these have been Rhododendrons, in the first place, and after them in order, hardy Azaleas, Magnolias, Conifers and Japan Maples. Many of the hardy Rhododendrons sold here are Flushing seedlings, and the foreign varieties are propagated here—not imported—all being grafted on stock of *R. Ponticum*. Mr. J. R. Trumpy, the well-known propagator, who has spent a third of a century in this nursery, grafted last year 10,000 plants with his own hand. The Rhododendrons had largely passed their blooming season when I saw them, but there were still flowers enough to illuminate the broad acres where the larger plants stood. After all, the almost interminable stretches of younger plants closely set, of uniform size and perfect health, made quite as brave a show. Many of the Azaleas were yet bright with bloom, and these late-flowering sorts have a special value. One of the most brilliant of them, a plant which fairly flamed with orange and scarlet, is called Flushing Queen, and is a home-raised seedling. Many of these seedlings are among the best varieties, but the parentage of them all is unknown. It has not been the practice here to make special crosses, but to sow seed of the best, and then to select the best of the seedlings until plants worthy of a name are found. The Hardy Azaleas are grafted on stock of *R. nudiflorum* and *R. viscosum*. The deliciously fragrant *Magnolia Thompsoniana* was in flower, and so was the still more beautiful *M. parviflora*, and the large number of young Magnolias of various kinds showed the faith that an increase in the demand for these choice trees was imminent. Mr. Parsons notes that there is a more intelligent enquiry for trees of approved beauty, and the Magnolias are among those sought for. Space would fail me to enumerate all the select Conifers which are grown here in quantities. The season had come when the young growth was just covering the trees with the softest green, and I could hardly feel reconciled to the theory which rejects so generally this family of trees because many of them are short-lived. It is true, urges Mr. Parsons, that many of them are short-lived, but while they do live they have characters of beauty which no other tree can offer, and which no lover of Nature is willing to lose. If we can plant a bed of Coleus for its brightness during a single summer, why not plant conifers for their beauty in the heat of summer and the snows of winter—a beauty which we can command with no other material—during the vigorous life of the tree, whether that be ten or twenty or thirty or more years? Arguments like this are easily assented to at this season of the year in the Kissena Nurseries when surrounded by scores of specimens of as many species and varieties, every one of which is a perfect picture.

As we stood by long rows of variegated Japan Quince, with foliage as bright as that of the Japan Maples which have been sent out from here in such great numbers, I asked Mr. Parsons how many of these Japanese trees and shrubs had been introduced through these nurseries. To this he was unable to give a full answer without an examination of his books, but I hope to furnish you at some time with a complete list of these introductions, as the record would be worth preserving. The catalogue would include many of our best and best-known shrubs. From Dr. Hall, for example, came in 1862: The double form of *Deutzia crenata*, *Hydrangea paniculata grandiflora*, *Magnolia stellata* and *M. Kobus*, five varieties of Wistaria; *Acer polymorphum*, *Quercus Dentata*, *Thuyopsis dolobrata*, *Sciadopitys verticellata* and *Lilium auratum*, eight bulbs of which were afterwards sold to a European firm at eighty dollars, in currency, each. Besides these and others, these nurseries received the seeds of many conifers from Dr. Hall. Among them, of *Picea Ayanensis*, *P. polita*, *Retinispora obtusa* and *Pinus Koraensis*.

The consignments from Mr. Thomas Hogg were much more important, including such prizes as twenty-five species and varieties of Maples, the Japanese Chestnut, the Cercidiphyllum, two varieties of Benthamia, the Stuartia, whose flowering in Europe last year created some sensation; *Daphne Genkwa*, *Deutzia scabra*, *Elæagnus longipes*, *Hydrangea paniculata*, *Styrax Japonica*, *Schizophragma hydrangeoides*, *Dimorphanthus Mandchuricus*; many fine conifers, including the Japanese Hemlock; nine varieties of Retinispora, *Pinus Thunbergii*, *P. densiflora* and *Taxus cuspidata*. This by no means completes the list of hardy plants for which the horticultural world has to thank Mr. Hogg, not to speak of many kinds adapted to green-house culture, which were also sent out through the agency of these nurseries. If we add to these importations such plants as the Weeping Hemlock, the Red-flowered Dogwood and many others, besides the seedlings raised here, we can begin to appreciate how large a place this firm will occupy in the history of American gardening.

Much of what was the original nursery-ground has been cut up into building-lots, but about the old place are still found a collection of noteworthy trees that cannot be matched elsewhere in this country. The great Weeping Beech has already been pictured and described in GARDEN AND FOREST—but near it stands a Purple Beech with a trunk ten feet in girth and branches spreading over a diameter of sixty feet. Near by is a Cephalonian Fir, which is at least forty years old, with perfect foliage and feathered to the very turf. The Pseudolarix here has a trunk four and a half feet in circumference. On the grounds of Mrs. Leavitt, a few rods distant, stands a characteristic specimen of the Oriental Spruce, with its deep shadows and rich green foliage. This tree is doubtless fifty years of age, but shows no deterioration. An immense *Magnolia Soulangeana* is not far distant, and is probably of the same age. It divides into four trunks close to the ground, which girth respectively four, four and a half, two and three-quarters and two and two-thirds feet. Its spread of branches altogether is forty feet. Words and numerals give faint ideas, however, of the charm which invests these trees and a score of others equally attractive on the home grounds of Mr. Parsons. The sum of the whole matter is that no one can say that he is familiar with the finest collections of trees which this country has to show until he has been at Flushing, where, for a hundred years at least, have been located some of the foremost establishments for propagating trees and shrubs for ornamental planting.

Flushing, L. I. *S.*

Recent Plant Portraits.

PASSIFLORA EYNSFORD GEM, *Gardeners' Chronicle*, April 20th; a hybrid Passion-flower raised in England from Constance Elliot, a white form of *P. cærulea* crossed with *P. racemosa*. "The petals are a lovely shade of rosy-lilac, the threads of the corona being ivory-white, tipped with violet. It is exceptionally beautiful, even among a genus famed for good looks, and it has the advantage of being almost constantly in flower."

MUTISIA CLEMATIS, *Gardeners' Chronicle*, April 20th; a free-growing, climbing Composite from the high mountains of Bogota, with deep, orange-colored flowers, and a capital plant for the cool green-house.

SKIMMIA JAPONICA (seedling male form; *S. fragrans* of gardens), *Gardeners' Chronicle*, April 27th.

SKIMMIA JAPONICA (female; *S. oblata* of gardens), *Gardeners' Chronicle*, April 27th.

SKIMMIA FORTUNEI (*S. Japonica* of gardens), *Gardeners' Chronicle*, April 27th. Dr. Masters has been studying the various Skimmias grown in English gardens, with the result that he finds that much confusion has existed among botanists and cultivators about these plants, and that the plant universally known as *S. Japonica* is not that species at all, and that it is not even known to belong to Japan, but that the plant described as *S. oblata* is the true *S. Japonica* of Thunberg and of Siebold and Zuccarini, or rather the female of that species, in which male and female flowers are separated on different individuals. The *S. Japonica* of gardens, so considered by Lindley, with whom all this confusion originated, and afterward by Sir W. Hooker, when it was first introduced by Fortune from China, in 1849, Dr. Masters now first properly distinguishes under the new name of *S. Fortunei*. This is the common species in cultivation. Dr. Masters calls attention to the interesting facts that this plant is not represented by wild specimens in herbaria, and that its Chinese origin rests upon Fortune's own statements with regard to it, which he says have been generally overlooked, although published in the *Gardeners' Chronicle* for 1852, p. 739, from which it appears that Fortune found this plant in a nursery-garden at Shanghai, to which he was told it had been brought from a high mountain in the interior called "Nang Shang." It is certainly both interesting and curious that nothing more definite is known of

the origin of a plant which has become one of the most popular and universally used evergreen shrubs of English gardens; and these last results (of which more are promised) of Dr. Masters' studies of garden plants are a solid and valuable contribution to knowledge.

MACLEANIA PUNCTATA, *Gardeners' Chronicle*, April 27th; the berries of this vacciniaceous shrub—a native of the Andes of Ecuador—are now first made known from a specimen grown in the gardens of Chatsworth.

Notes.

It is expected that during the month of June three thousand varieties of Roses will bloom in the grounds of the International Exposition at Paris.

The larvæ of the Imported Elm-leaf beetle are already appearing, and the sooner the trees are sprayed the better. One pound of London Purple to one hundred gallons of water makes an efficacious mixture.

Those of our readers who intend passing the summer in England may be interested to know that important Rose-shows will be held as follows: July 2d, Boston, Sutton; July 10th and 11th, Brighton, Ealing; July 17th, Bedford; July 26th and 27th, Wilmslow.

Mr. Edward L. Greene will devote the next three months to exploring the forests of Colorado, Montana, Oregon, Washington and California, and his journey should throw much new light upon some of the perplexing questions relative to the trees of western America.

The summer meeting of the Wisconsin Horticultural Society will be held at Sparta, on June 19th and 20th. Prizes will be offered for the best essay on the native trees of Wisconsin and for the best plan for laying out a school-ground not exceeding an acre in area. Here is an example which some of the older states might follow with profit.

The Association of American Nurserymen, at their meeting in Chicago last week, elected the following officers for the year: President, Geo. A. Sweet, of Dansville, New York; Secretary, Charles A. Green, of Rochester, New York; Treasurer, A. R. Whitney, Franklin Grove, Illinois; Executive Committee, Leo Weltz, Wilmington, Ohio; S. D. Willard, Geneva, New York; S. M. Emery, Lake City, Minnesota.

M. Viullemin has recently discovered that the now widespread disease of the Lombardy Poplar is due to the attacks of a fungus (*Didymosphæria populina*), against which a solution of sulphate of copper has been found effective. But as the lower branches of the trees are attacked first, it is suggested that their removal as soon as the presence of the fungus is detected will check the spread of the disease.

A plant of the new Strawberry originated by Mr. James Nimon, of Dennison, Texas, and named Parker Earle, has been sent to this office from the experiment-grounds of the *Rural New Yorker*. The plant is remarkable for its strong foliage and for the abundance of fruit, held up from the ground by the stout peduncles. The berries are large, of excellent flavor, and their entire surface becomes white like wax before turning red.

A Brussels journal notes the fact that the Belgian Government has decided to grow plants for distribution in the schools in sufficient numbers to insure that each student shall have a specimen before him when he takes his botanical lesson. A subscription price of five francs yearly seems cheap enough, even if it stands only for an individual pupil; but in Berlin for a number of years plants have been cultivated for the same purpose and freely distributed by the government. When shall we be intelligent enough to follow German example in directions like this?

During the last session of Congress the sum of $200,000 was appropriated for the establishment of a zoölogical garden in Washington. The necessary site for it has now been selected. It comprises about 150 acres, lies to the north-west of the city, about two miles from the White House, along the banks of Rock Creek, and is said to be admirably situated and in every way well adapted for its purpose. It is expected that before next winter the necessary arrangements will be so far advanced that the animals now inappropriately housed in the grounds of the Smithsonian Institution can be removed to their new quarters.

Patchouli, says a recent writer in the *Journal of the Agricultural and Horticultural Society of India*, is the product of *Ocimum Basilicum*, var. *pilosum*. The species is largely grown on the continent of Europe in pots for room decoration, under the familiar name of Sweet Basil. It is a small annual belonging to the *Labiatæ*, with little white flowers in simple racemes. The variety Pilosum seldom or ever flowers, the perfume being obtained from its aromatic leaves. Its cultivation is almost entirely confined to the Chinese of the Straits Settlements, who grow the plants from cuttings in raised beds.

A fine, colored plate of *Dictamnus fraxinella*, showing both the crimson and the white varieties, was recently published in the *Garden*. About a year ago one of our correspondents called attention to this plant, saying that it was once a great favorite, but now, despite its beauty and its peculiarly attractive fragrance, is seldom seen and almost forgotten. Nevertheless, it is a surprise to learn from the text which accompanies the picture in the *Garden* that no colored illustration of Fraxinella had ever before been published in England. The great peculiarity of the plant is the luminosity it develops on warm summer nights, owing to the aromatic juice which exudes from its pores, especially those of the pedicels of the flowers.

Professor Patrick, of the Iowa Agricultural College, undertook last winter to make a chemical study of apple twigs to ascertain whether he could detect differences of composition between the young growth of such varieties as are hardy, and those which are not hardy in that region. At the same time and for the same purpose a microscopic examination was made of apple twigs by Dr. Halsted. It would be a great advantage if hardy and tender varieties could be distinguished from each other by a chemical analysis or an examination of their cell-structure. Professor Budd, indeed, has expressed the opinion that there was an apparent difference in the structure and composition of the trees which proved hardy in Iowa and those which were tender. The results of Professor Patrick's analysis "lend, perhaps, some slight encouragement" to this idea. Professor Halsted found "no parallelism between microscopic structural differences and ability to withstand the influences of a trying climate."

The only plant of any size, probably, of the true *Abies amabilis* to be seen in the eastern States is growing in the nurseries of Mr. Josiah Hoopes, in West Chester, Pennsylvania. This, for many years and until 1880, when Engelmann and Sargent gathered a number of small seedlings in the mountains of the lower Fraser, and subsequently made arrangements for the collection of large quantities of seed, was the rarest of all the western American conifers in cultivation; the only large plants in Europe being those in the Botanic Garden at Edinburgh and in the Arboretum of Dropmore, derived from the scanty collections of David Douglas, who found this tree more than half a century ago on the Cascade Mountains, overlooking the great Falls of the Columbia. He discovered on the same day and in the same locality *Abies nobilis*. *Abies amabilis* was certainly well named, for it is by far the loveliest of the North American Firs. The West Chester plant is a graft from the Edinburgh tree; and although some fifteen years planted, it has been slow, like so many grafted conifers, in getting started to grow. It has at last, however, commenced to grow satisfactorily, and is now something like four and a half feet high with a diameter of branches of seven feet on the ground. It is healthy, and apparently quite hardy, giving promise of becoming a handsome tree.

A constant increase may be noted in the varieties of flowers sold by the street venders in this city. In a space of a block and a half there were counted, a short time ago, Roses of several kinds, among which La France, Bon Silene and General Jacqueminot were most conspicuous, Heliotrope, Pansies, Carnations of many colors, including large numbers of a fine scarlet kind with unusually long stems, Lilies-of-the-Valley, Peonies, white and red, Magnolias (the sweet-scented *M. glauca*), Corn-flowers, Syringa, Mountain Laurel, huge baskets full, and Daisies by the thousand, sometimes mingled with Red Clover blossoms. A few moment's observation showed that the preference of purchasers was distinctly for the wild flowers. Hot-house flowers are lovely in themselves, but they tell of nothing but themselves, while the wild flowers bring with them a picture of the spot where they grew, a vision of summer, a breath of country air, and eyes weary of brick and mortar are quick to appreciate the difference. Excellent taste is shown by many of the peddlers in making up their wares. The bunches of Daisies and Clover very often as fresh and natural as though a child had just picked them, and sometimes sprays of Beech leaves are prettily mingled with the Daisies.